DOCUMENT RESUME

ED 372 985 SO 024 013

AUTHOR Niemz, Gunter; Stoltman, Joseph P.
TITLE InterGeo II: International Geographical Achievement Test. Field Trials Report and Test (Secondary Schools, Grade 8).
PUB DATE [93]
NOTE 33p.
PUB TYPE Reports - Evaluative/Feasibility (142) -- Tests/Evaluation Instruments (160)

EDRS PRICE MF01/PC02 Plus Postage.
DESCRIPTORS *Academic Achievement; Educational Testing; *Evaluation Research; *Field Tests; Foreign Countries; *Geography; *Grade 8; International Studies; Junior High Schools; Program Evaluation; Skill Development
IDENTIFIERS *Cross National Studies; *InterGeo II

ABSTRACT

InterGeo II, a project of the Commission on Geographical Education (CGE) of the International Geographical Union (IGU), has developed a broadly based, field-trialed testing instrument for making cross-national comparisons of achievement in geography. Field trials of InterGeo II were held in 23 countries. Data were analyzed for national achievement levels as well as cross-national comparisons on six subtests. The data analyses suggest a wide variation in basic geography achievement between and among countries. Despite design problems regarding sample selection and curriculum validity, the test results provide general patterns of information regarding achievement in geography to educators worldwide. The discussion of results from InterGeo II may serve as the basis for further research on cross-national achievement. Research on InterGeo II was supported by the German Research Foundation and the Commission on Geographical Education. Three graphs illustrate data on number of usable answer sheets by country, average scores on InterGeo II by subtest and composite, and correct responses by item on InterGeo II. Appendix A provides a list of national coordinators in the 23 countries participating in the study. (Author/CK)

****
* Reproductions supplied by EDRS are the best that can be made *
* from the original document. *
****

ED 372 985

InterGeo II:
International Geographical Achievement Test
Field Trials Report and Test
(Secondary Schools, Grade 8)

by

Gunter Niemz
Johann Wolfgang Goethe--Universitat
Germany

and

Joseph P. Stoltman
Western Michigan University
U.S.A.

U.S. DEPARTMENT OF EDUCATION
Office of Educational Research and Improvement
EDUCATIONAL RESOURCES INFORMATION CENTER (ERIC)

X This document has been reproduced as received from the person or organization originating it.

☐ Minor changes have been made to improve reproduction quality.

• Points of view or opinions stated in this document do not necessarily represent official OERI position or policy.

"PERMISSION TO REPRODUCE THIS MATERIAL HAS BEEN GRANTED BY
JOSEPH P. STOLTMAN

TO THE EDUCATIONAL RESOURCES INFORMATION CENTER (ERIC)."

SO 024 013

BEST COPY AVAILABLE

The Field Trials Report on InterGeo II

by

Gunter Niemz
Johann Wolfgang Goethe--Universitat
Germany

and

Joseph P. Stoltman
Western Michigan University
U.S.A.

Abstract

InterGeo II, a project of the Commission on Geographical Education (CGE) of the International Geographical Union (IGU), has developed a broadly based, field-trialed testing instrument for making cross-national comparisons of achievement in geography. Field trials of InterGeo II were held in 23 countries. Data were analyzed for national achievement levels as well as cross-national comparisons on six subtests. The data analyses suggest a wide variation in basic geography achievement between and among countries. Despite design problems regarding sample selection and curriculum validity, the test results provide general patterns of information regarding achievement in geography to educators worldwide. The discussion of results from InterGeo II may serve as the basis for further research on cross-national achievement. Research on InterGeo II was supported by the German Research Foundation and the Commission on Geographical Education.

Introduction

The purpose for developing InterGeo II was to provide an easily administered, reliable test of achievement in geography for 14 year-old students. The test was designed to permit reliable, systematic cross-national comparisons between groups of students in different countries (Niemz, & Stoltman, 1992). The need for such a test of geographic achievement has been evident for several years as reports have been published on the geographic literacy of students, a trend that began principally in the United States (Grosvenor, 1988; National Council for Geographic Education, 1983; Saveland, 1983), but which was also a concern in other countries (Gallup Organization, 1989). The purpose of this paper is to report on the advanced field trials of InterGeo II which took place between January 1990 and January 1992.

Nature of InterGeo II

InterGeo II is a 50 item multiple-choice test made up of six subtests. The multiple-choice format was selected because of the advantages of scoring ease and standardization of administration. The multiple-choice format reduces somewhat the subjectivity that is inherent in both short and extended written responses when used for cross-national comparisons. In a national setting, InterGeo II is viewed as useful as one component of an assessment that would also entail other components, including writing, discussion, and problem solving. It is widely accepted that a test with a variety of item types would provide a much broader view of achievement in geography.

A first consideration in the design of InterGeo II was the means to assess higher-order thinking using multiple-choice questions. Higher order thinking requires that students move beyond factual knowledge and become engaged in addressing issues or solving problems. It requires being able to use previously learned information in newly defined contexts, to apply information to the construction of new knowledge, and to incorporate sophisticated levels of classification entailing information based judgements about situations or conditions. The multiple-choice questions developed for InterGeo II were designed to cover the wide range of lower-order to higher-order thought processes. The utility of InterGeo II for international use was judged by the developers to be enhanced if it relied upon multiple-choice questions that incorporated higher-order thinking.

The nature of geography as a discipline was a second major consideration in the design of InterGeo II. Geography is a discipline that renders school geography in different forms cross-nationally at the level of 14 year-old students. In some countries there is an emphasis upon physical geography. In others, the emphasis is upon earth systems, while in others there is a strong social geography orientation. Intermixed with the content orientations are geographical skills and regional studies. All of those perspectives are in keeping with the traditions of the discipline (Pattison, 1964). That being the case, it was decided to incorporate six subtests, one for each of the following aspects of the discipline: location; physical geography; human geography; geographical skills; regional geography; and geography of the home country.

Test Administration

Testing packets were mailed to national coordinators (Appendix A) for administration. They contained the printed instructions for administration and the follow-up procedures for returning the answer sheets for processing. Test answer sheets from 23 countries were processed (Figure 1). The geographic distribution of coordinators relfects to a large extent the network of colleagues who have been active in the CGE of the IGU. Approximately two times as many coordinators were invited to participate, and this report represents only those testing data received by January, 1992. The results are highly Euro-centered and relfect a major absence of testing data from Africa, Asia, and South America. While colleagues from those regions were invited to participate, the testing protocol and access to field test sites were problematic.

The Design for Data Collection

In order to obtain reliable data on the geographical achievement of 14 year-old students in each participating country, the test was to be administered to approximately 20 classes of students (n=600) from different areas of the country (cities, rural areas, regions). The sample size by country (Figure 1) reveals that the requested sampling was not possible to obtain in all instances. In countries with larger populations or different types of schools, the sample tended, in most cases, to be larger. In other countries the sample lacked breadth of representation necessary to reflect the country's population diversity.

Sampling selection was also an issue in the data analysis. As a general pattern, a scientifically selected sample proved difficult, even impossible, for most national coordinators. This was due to the nature of

student assignments to classrooms and the administration of the InterGeo II within already functioning school settings. While the field testing design had suggested that national samples were to be similar to those used in Hong Kong (Table 1), the data sets from countries reflected varying degrees of discontinuity relative to the design suggested.

When random sampling was not feasible, the national coordinators were encouraged to record the characteristics of the students included in the testing group, both in terms of standard normative data such as other achievement scores as well as qualitative factors such as ability grouping, heterogeneity, and gender. It was believed these data would be useful in analyzing test scores by group. However, the quantitative and qualitative data were not systematically collected in all countries.

As a consequence of sampling and data collection, InterGeo II does not necessarily reflect the general geographical achievement of a random sample of 14 year-old students in a particular country. The results may be generalized to only the students who responded to the test. On the other hand, qualitative comparisons may be made about the characteristics of the sample and how it compared to a hypothetical average. In some cases the national coordinators have a good idea about how nearly the sample either did or did not reflect the national population of 14 year-old students. In Germany, for example, there are considerable differences in teaching geography between the western and eastern regions of the country, and in the different Lander. Therefore colleagues in several Lander were asked to cooperate in the project as Lander coordinators. The scores for students in the western and eastern regions were analyzed separately. A similar arrangement applied to the United States. The national coordinator returned 800 test answer sheets from students in 15 different states. Those results were analyzed as a composite sample since individual student and school characteristics were not available. A subsample of United States students of Hispanic background was also tested, and the scores from that group may be compared to the larger group (Table 2).

Table 1

Sample Selection for Hong Kong

School	Location	X	Y	Z	Remarks*
A	Kln	2	3	1	
B	Kln	2	1	3	
C	Kln	3	4	4	private
D	Kln	3	3	2	
E	NTW	1	2	1	
F	NTW	2	2	3	
G	NTE	3	2	4	
H	NTE	3	3	4	
I	NTW	3	3	2	
J	NTW	2	3	2	
K	Kln	3	4	3	
L	NTW	3	3	2	
M	HK	4	3	4	private
N	NTE	1	3	3	
O	NTE	3	3	2	
P	HK	1	3	1	
Q	Kln	1	3	2	all boys
R	HK	1	3	1	all girls
S	NTE	3	3	3	all boys
T	Kln	3	5	4	

Notes

X Indicates the students' standing within the school net before entering grade 7: 1 represents top 20%; 2, second 20% .... 5, bottom 20%. Hong Kong is divided into 24 school nets and the standard differs from net to net. Broadly speaking, schools on Hong Kong Island and in Kowloon have slightly higher standard than those in the New Territories.

Y Indicates the standard of the class tested as compared to other classes of the same grade in the same school: 1 represents well above average; 2, above average; 3, average ..... 5, well below average. Most schools in Hong Kong have 5 classes for grade 9.

Z Indicates the schools' passing rates in geography in the Hong Kong Certificate of Education Examinations in the past three years: 1 represents 81-100%; 2, 61-80%; 3, 41-60% ..... 5, 0-20%. The passing rate for the whole of Hong Kong varies between 55% and 60% in general.

* Schools without any remark are publicly financed co-educational Anglo-Chinese grammar schools. They normally have a student population of about 1200 each (grades 7-11, 40 students per class; grades 12-13, 30 per class).

Table 2

Average Percentages of Correct Answers Per Subtest

Country	n	I	II	III	IV	V	VI	overall
Australia	274	65.0	41.7	51.5	50.4	53.9		51.3
Austria	533	79.9	52.1	75.8	61.9	62.7	74.5	66.5
Belgium	459	79.1	47.7	56.7	60.1	49.3	58.5	57.4
Brazil	85	55.7	36.4	50.7	36.4	43.4	44.5	43.4
Czechoslovakia	597	93.1	68.3	73.1	77.0	70.1	85.3	76.9
Denmark	385	64.8	34.3	60.7	47.4	51.6	49.0	49.9
Finland	313	74.7	50.8	63.4	51.9	60.0	53.6	58.6
Germany	3555	77.1	50.6	70.9	60.0	55.2	61.1	61.3
eastern	889	82.6	57.2	69.3	64.9	57.6	68.0	65.5
western	2666	75.4	48.4	71.4	58.3	54.4	58.8	59.9
Great Britain	164	66.3	41.2	55.4	51.4	51.6	44.7	50.8
Hong Kong	751	51.8	36.6	55.3	49.8	42.2	49.9	46.7
Hungary	661	87.8	73.0	64.5	64.8	67.3	75.1	71.2
Iceland	337	60.6	37.9	53.9	45.2	47.5	58.1	49.4
Ireland	463	71.7	45.1	58.0	52.1	52.3	51.9	54.0
Israel	353	65.8	36.8	56.7	44.5	55.1	42.2	48.8
Italy	620	79.0	52.5	55.6	53.1	57.9	49.3	56.6
Jamaica	417	44.2	32.5	47.8	41.7	38.8	52.6	42.4
Luxemburg	160	73.2	46.4	56.7	53.6	56.7	21.3	50.3
New Zealand	574	55.9	35.8	49.9	45.9	50.0	54.7	47.8
Poland	258	87.9	65.4	67.4	55.8	68.7	61.8	66.4
Portugal	458	67.1	42.3	57.1	49.7	52.9	54.2	52.7
Singapore	536	66.0	47.1	66.7	61.9	66.0	80.8	63.9
Slovenia	608	82.3	56.4	63.2	54.4	57.5	64.7	61.7
U.S.A.	1118	65.1	42.4	50.2	48.9	46.2	53.9	49.3
San Diego/Tucson (Hispanic minority)	308	44.2	29.3	36.6	38.3	32.8	32.6	35.1
U.S.A. without San Diego, Tucson	810	71.2	46.4	53.9	51.9	49.9	62.0	54.7
overall	13679	70.2	46.7	59.2	53.0	54.7	56.3*	55.7*

* not including Australia

Analysis of InterGeo II Test Scores

The grand mean for the geographical achievement of 14 year-old students in the 23 participating countries was calculated by using the national average scores for each country. No adjustment was made for the size of the sample, which ranged from more than 3000 students in Germany and 1000 students in the United States to fewer than 200 students in several countries that had large populations as well. The mean scores for each item on the test as well as the composite of scores were compiled for all countries.

The average scores for each subtest and the composite scores show the variability that exists in geographic knowledge between and among the participating countries (Table 2). They differ from country to country. The average scores per subtest and average composite scores (Figure 2) provide the basis for discussing the overall profile of student performance on the test. This comparison is useful since it reveals achievement relative to each of the six tests.

The highest scores are on Subtest I "Location" (Figure 2). These scores represent a general improvement in achievement compared to earlier administrations of InterGeo I (Niemz, 1988) in which Subtest I was very similar. The average scores on overall general locational knowledge is almost 15 points higher than the Subtest VI scores which focused on the home country. This is evidence that attention is being given to global place vocabulary and location, probably due to the widespread reports of geographic illiteracy which has focused principally on place location tests. The resolution of geographic literacy is often viewed as knowing more place vocabulary information. On the one hand, the cross-national mean score of 70.2% is a positive outcome, while on the other hand it is important to recognize this is only one part of the geographic knowledge 14 year-old students should acquire. Knowledge of locations is absolutely necessary, but the teaching of geography and the geographical qualifications of students must not be reduced to knowledge of location only. A balance of place location knowledge and knowledge of physical and human geography must be addressed. It is in this regard that any optimism gained from Subtest I about test performance must be referenced.

Subtest II "Physical Geography" and Subtest IV "Geographical Skills" show the lowest average scores of any components of the test. The average scores for Subtest II suggest that 14 year-old students have little knowledge of basic physical processes. The earth science tradition of geography, both as a basic science and as it relates to human-

environment interactions is not well developed among this age group in general. While there is variability among countries, the overall profile (Table 2) is one of low average scores.

The Subtest III average scores provided the second highest average among the subtests. In direct contrast to the Subtest II average scores, this average suggests an emphasis upon human and cultural traditions within geography instruction. Cross-nationally, 14 year-old students achieved favorable outcomes. While average scores on Subtest III were higher, the data for both Subtests II and III suggest there must still be more emphasis on the geographical subfields of physical and human geography within the curriculum. The environmental aspects of major issues, like global climate, soil conservation, atmospheric pollution and water quality are essential to address. Those issues involve both physical systems and human dimensions in the development of possible solutions and plans of action.

Geographical skills, such as the interpretation and analysis of maps, tables, data, and narratives are equally essential to achievement in geography. The average scores attained on Subtest IV suggest a low degree of skills attainment in the techniques associated with geographic study. This is especially alarming since the graphic nature of geography lends itself to the use of maps, graphs, and tables for information organization and analysis. It appears, from the data, that those skills are not being substantially developed. The low average scores on Subtest IV has ramifications for the geography education curriculum since the concepts of geography are often dependent upon the skill of organizing and interpreting information. The application of many concepts from geography is dependent upon the understanding and use of skills.

Geographical knowledge and understanding are essential in addressing the burgeoning environmental, population, and economic issues of the 21st century. The average scores on Subtest V (Table 2) reveal that regional geography achievement is lacking among the students in the sample. The regional focus of geography is essential in promoting international dimensions and multi-cultural perspectives. It is essential for attaining a better understanding of the situations people face in different areas of the world.

The average for Subtest VI is presented (Table 2). It must be remembered that the items on Subtest VI differed from country to country. Subtest VI was added by national coordinators in order to get a better idea about the influence of national curricula, and to compare a part of the test based upon national curricula with other subtests. Somewhat higher averages were expected on this subtest since it had context validity relative to the curriculum. However, in most cases, the average percentage of correct answers on Subtest VI was not

significantly different from the average scores on the other five subtests. In several countries (Austria, Czechoslovakia, Iceland, Jamaica, Singapore, New Zealand) the average score was higher. In others (Italy, Ireland, Israel, Luxembourg) it was lower. The various explanations for these observations go beyond the purposes of this report and will hopefully be addressed by national coordinators in reporting their observations.

Comparisons of Country Scores

While the cross-national comparison of scores on InterGeo II must be viewed with the recognition that a single set of controls were not strictly adhered to in the data collection process, the cross-national comparisons of scores reveal several aspects of international geographical education. The data (Table 2) show considerable differences in the average composite scores for geographical achievement on InterGeo II by 14 year-old students in different countries. One must keep in mind that the amount of geographical instruction up to the age of 14 years varies from country to country. If there is little or almost no geographical instruction, it is anticipated that the geographical achievement of the students on InterGeo II will be lower. If geography is not a separate school subject, but included in a broader course such as social studies, the geographical achievement of the student may also be lower. These differences may be attributed to curriculum effects.

Second, the selected sample in most cases was not scientifically selected and therefore may not be assumed to reflect the average geographical achievement, within certain limits of confidence, of students in a certain country. Third, comprehensive classrooms of mixed ability students will score differently from classrooms made up of learners having different abilities. Other than the qualitative field notes made regarding groups of students, few systematic, normative data were available for students in any country. In some cases, data that were useful were not accessible to the national coordinator. These aspects of the field test presented limitations.

The broadest sampling for a geographic region was in Europe, and that permits several observations regarding subregional differences in achievement. The average scores of students in the former socialist countries of eastern Europe were somewhat higher than students elsewhere (Table 2). On the surface it appears that perhaps students there were studying geography more seriously than students in western countries. Other variables may also have been instrumental, such as student selection criteria for the grade level. Students in European

countries generally scored higher than students in other regions of the world (Table 2). It may have been that selection procedures within the educational system prior to the age of 14 years were functioning, and higher ability students were grouped together by class or school.

Conclusion

The cross-national comparisons of student performance on InterGeo II provide several valuable insights into geographical education internationally. The international comparisons may help geographical educators improve the geography instruction in their home countries either by examining the cross-national comparative data, or by examining the national data against the specific criterion or standards set by the test. For example, is it expected that 14 year-old students should know the information or skills represented by specific items? Asking that question is a first step in analyzing national data. The test results may help national coordinators to improve the national geographical curricula by providing specific examples of achievement, or by comparing achievement scores among several countries. One use for the data may be to convince the educational authorities to put more emphasis on the teaching of geography and on the training of geography teachers.

The test results also permit the analysis of achievement in the subfields of geography. For example, in some subfields the geographcial knowledge of 14 year-old students may be called satisfactory (e.g., knowledge of locations). In other subfields, like physical geography, geographical skills, and regional geography, glaring deficiencies may be observed. Teachers, curriculum leaders and educational authorities may use the test results for identifying and improving those elements of the curriculum.

Figure 1: Number of Usable Answer Sheets by Country

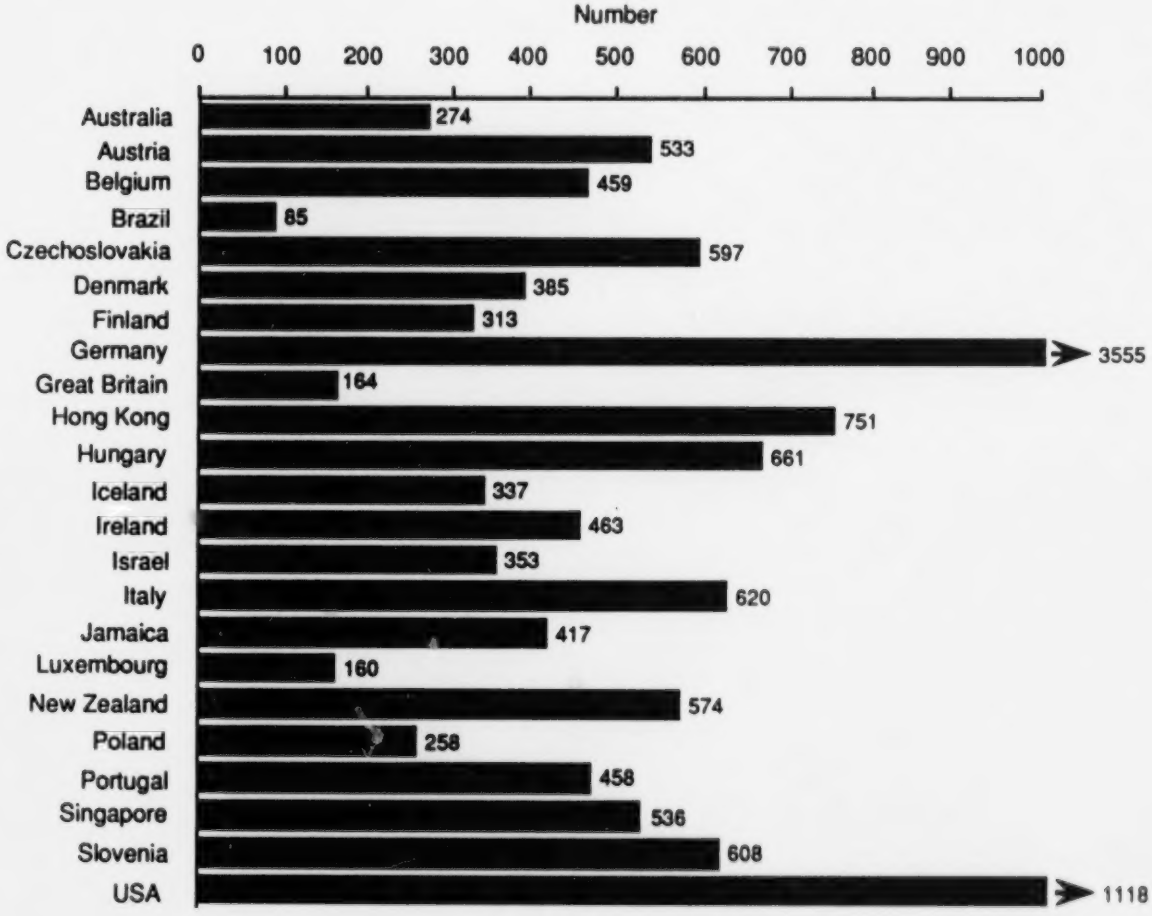


Figure 2: Average scores on InterGeo II by Subtest and Composite
(Based on the averages by subtest for 23 countries)

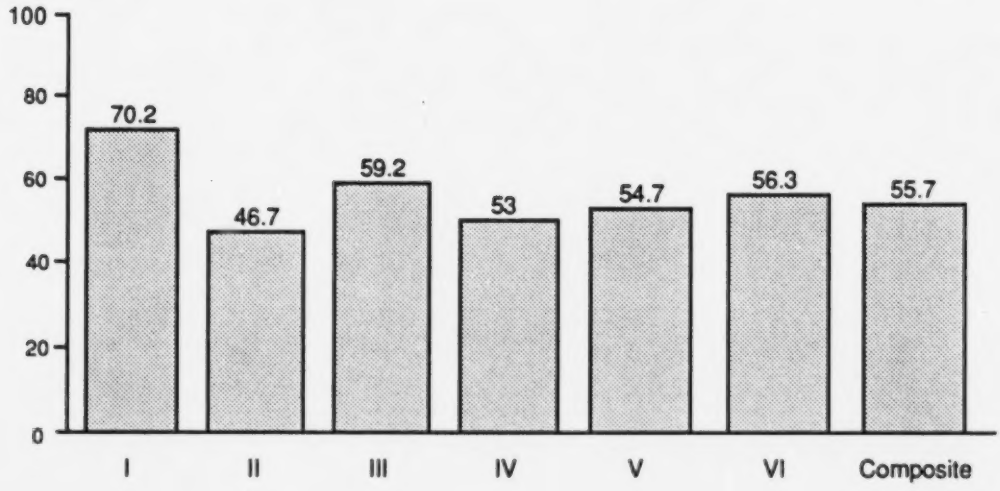
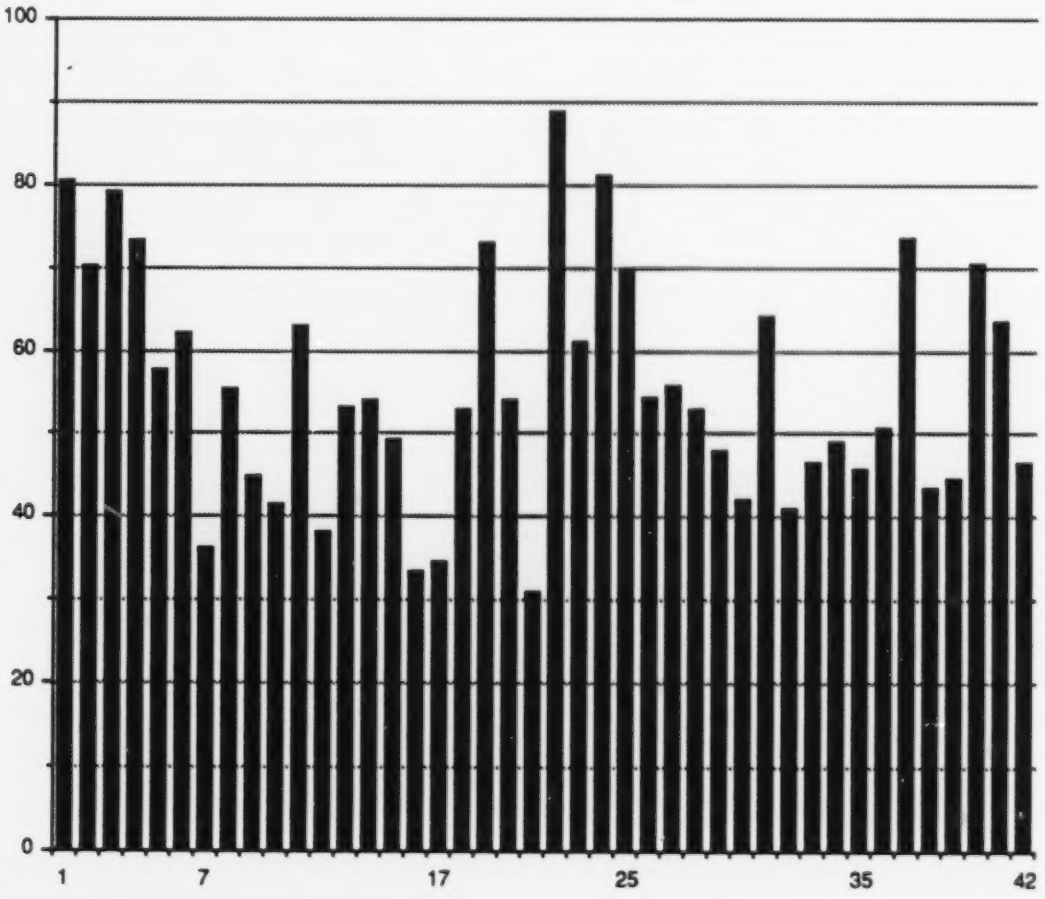


Figure 3: Correct Responses by Item on InterGeo II
(Based on the averages by item for 23 countries)



Note: Items 42-50 deleted since they pertained to the home country.

Appendix A: List of National Coordinators

Australia:	G. Conolly, Camperdown 2050 NSW
Austria:	F. Forster, A-4400 St. Ulrich
Belgium:	M. Gossens, B-3030 Leuven-Heverlee
Brazil:	M. Mucciolo, RY Rio de Janeiro 22620
Czechoslovakia:	H. Kuhnlova, 12843 Prague 2
Denmark:	O. Biilmann, 2400 Copenhagen NV
Finland:	H. Rikkinen, Sf-00120 Helsinki
Germany:	A. Brucker, M. Flath, E. Fuldner,
	G. Meier-Hilbert, R. Meincke,
	J. Newig, H. Volkmann
Great Britain:	D. Lambert, London WC1H OAL
Hongkong:	Y. Fung, Shatin, NT
Hungary:	F. Probald, 1083 Budapest VIII
Iceland:	T. Jakobson, Reykjavik
Ireland:	D. Gillmor, Dublin 2
Israel:	Y. Bar-Gal, Mount Carmel, Haifa
Italy:	G. de Vecchis, 00185 Roma
Jamaica:	M. Morrissey, Mona, Kingston 7
Luxembourg:	G. Hengesch, 3468 Dudelange
New Zealand:	J. Macaulay, Christchurch 4
Poland:	M. M. Wilczynska-Woloszyn, R. Domachowski
	K. Kafel, Warszawa
Portugal:	H. Sousa, P-1700 Lisbon
	M. Ferreira, P-1700 Lisbon
Slovenia:	J. Kunaver, 61001 Ljubljana
Singapore:	Ang Siew Hong, Singapore 0922
U.S.A.:	S. Bednarz, Texas 77843-4241

References

Gallup Organization. (1989). A Gallup Survey of Geographic Knowledge in the Soviet Union. Princeton, NJ: The Gallup Organization.

Grosvenor, G. (1988). National Gallup Geography Test. Congressional Record, 134(110), S10317-18.

National Council for Geographic Education. (1983). The National Council for Geography Education Competency-Based Geography Test: Secondary Level. Macomb: National Council for Geographic Education.

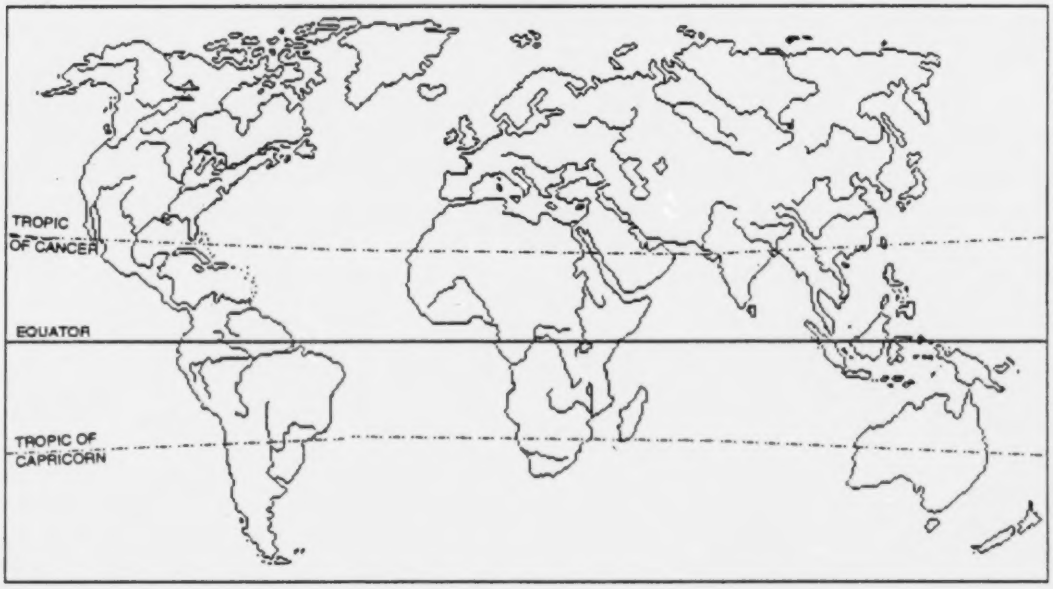
Niemz, G. (1988). International project on geographical achievement of students. In R. Gerber, & J. Lidstone (Ed.), Skills in Geographical Education Symposium '88. (pp. 92-101). Brisbane: International Geographical Union Commission on Geographical Education.

Niemz, G. & Stoltman, J. P. (1992). Cross-National Testing in Geography: A Report. In A. D. Hill (Ed.), Interdependence in Geographic Education. Boulder, CO: Center for Geographic Education.

Pattison, W. D. (1964). The four traditions of geography. Journal of Geography, 63, 211-216.

Saveland, R. N. (1983). Map skills around the world: How to test and diagnose place vocabulary capabilities. Social Education, 47(3), 206-211.

INTER GEO II
International Geographical Achievement Test
Secondary Schools
Grade 8



To the Student:
This test is designed to show your knowledge, skills, and understanding in geography. There are four possible answers to each item. To find the correct answer it will often be necessary to study a map or figure.
Mark the answers you select only in the spaces provided on the answer sheet. Do not write in this booklet. Work steadily on the test and do not spend too much time on any question. Try to answer all the questions on the test.

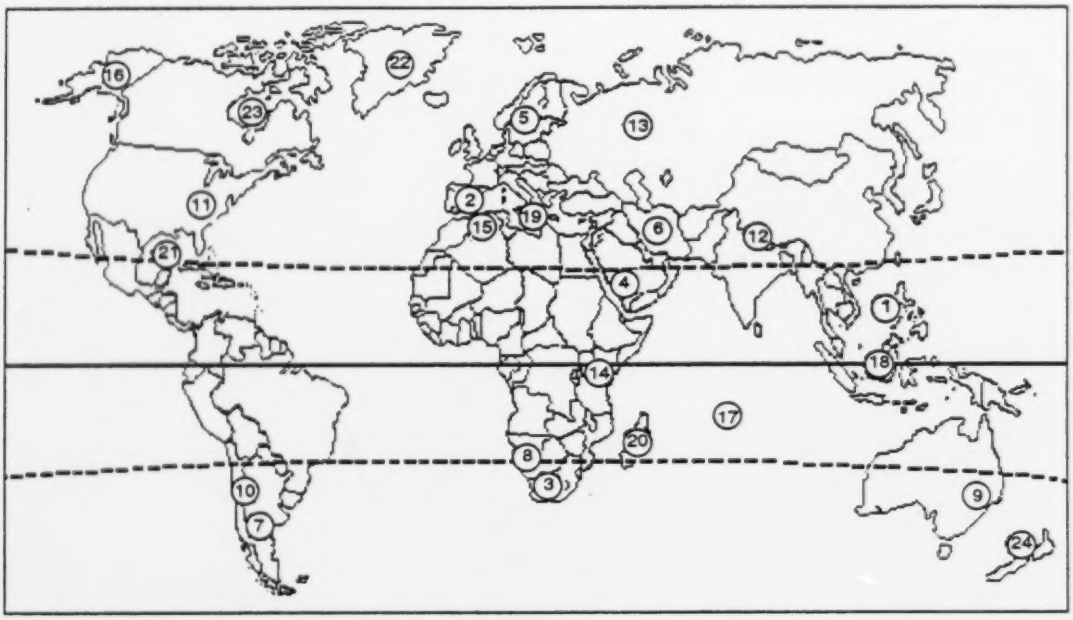
Example of an item:
Study the world map on this page. Which answer is correct?
A South America is larger than North America.
B Europe is east of Asia.
C The Atlantic Ocean is between Africa and Australia.
D The Equator passes through South America and Africa.
On the answer sheet you would mark answer space D with an X, the correct answer.
Now listen to your teacher for additional information.

Do not open until instructed to do so.

©1990 by the International Geographical Union (IGU), Commission on Geographical Education.

Part I: Location

MAP 1



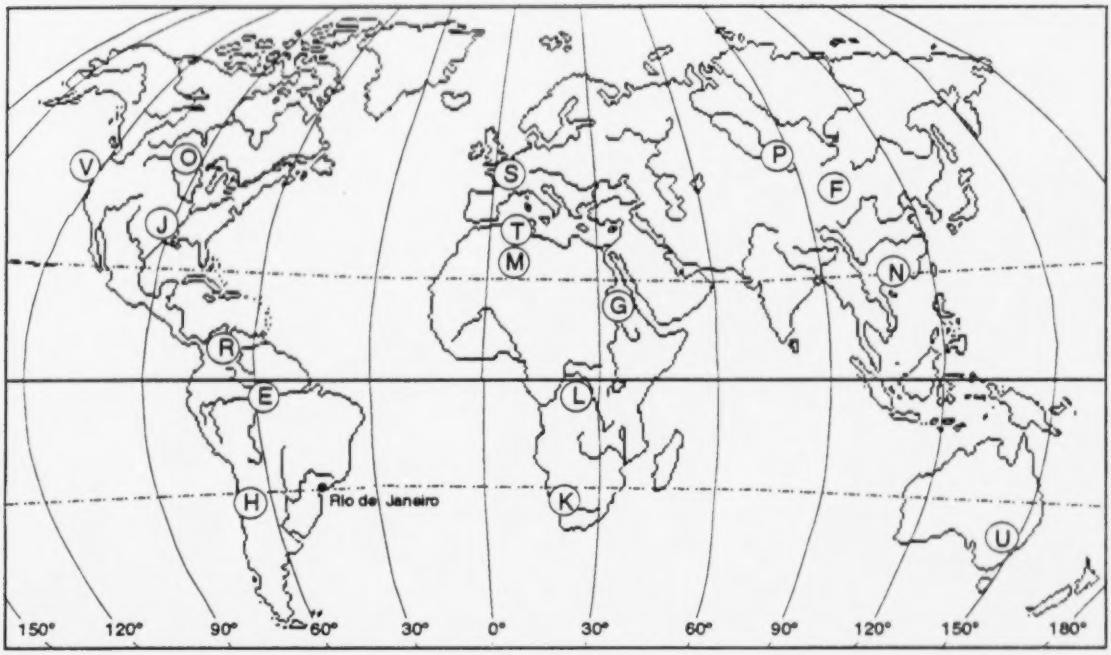
Items 1-3 refer to map 1

1. Select the pair of countries that have been correctly numbered.
   - A Nation 1 is Japan; Nation 2 is Italy.
   - B Nation 3 is Australia; Nation 4 is India.
   - C Nation 5 is Great Britain; Nation 6 is Israel.
   - D Nation 7 is Argentina; Nation 8 is Namibia.

2. Select the pair of numbers showing the correct location of a mountain range and a high mountain.
   - A Number 9 identifies the Andes, number 10 Mt. Everest.
   - B Number 11 identifies the Rocky Mountains, number 12 Mt. McKinley.
   - C Number 13 identifies the Urals, number 14 Mt. Kilimanjaro.
   - D Number 15 identifies the Alps, number 16 Mt. Aconcagua.

3. Select the pair of numbers showing the correct location of a water body and an island.
   - A Number 17 indicates the Mediterranean Sea, number 18 Madagascar.
   - B Number 19 indicates the Gulf of Mexico, number 20 Sumatra.
   - C Number 21 indicates the Indian Ocean, number 22 Iceland.
   - D Number 23 indicates the Hudson Bay, number 24 New Zealand.

MAP 2



Items 4-6 refer to map 2

4. Select the pair of letters showing the correct location of a river and a desert.
   - A Letter E shows the Mississippi, letter F shows the Sahara.
   - B Letter G shows the Nile, letter H shows the Atacama.
   - C Letter J shows the Congo, letter K shows the Tharr.
   - D Letter L shows the Amazon, letter M shows the Namib.

5. Select the pair of letters showing the correct location of two big cities.
   - A Letter N identifies Shanghai, letter O identifies Montreal.
   - B Letter P identifies Moscow, letter R identifies Buenos Aires.
   - C Letter S identifies Berlin, letter T identifies Cairo.
   - D Letter U identifies Sydney, letter V identifies San Francisco.

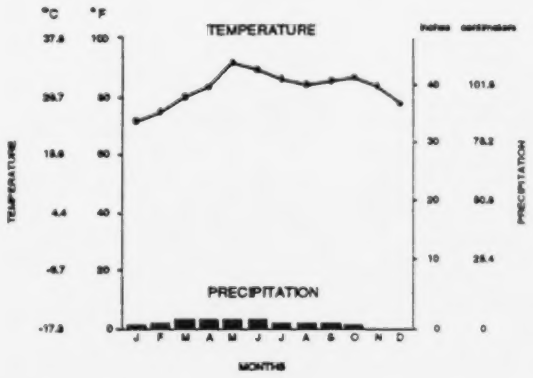
6. What is the correct location of Rio de Janeiro?
   - A About 45 degrees east longitude, about 23 degrees north latitude,
   - B About 45 degrees west longitude, about 23 degrees south latitude,
   - C About 45 degrees north longitude, about 23 degrees east latitude,
   - D About 45 degrees south longitude, about 23 degrees west latitude.

Part II: Physical Geography

7. On June 21/22 the sun is directly overhead at noon at the
   A Equator,
   B Tropic of Cancer (23 1/2 degrees north latitude),
   C North Polar Circle (66 1/2 degrees north latitude),
   D Tropic of Capricorn (23 1/2 degrees south latitude).

8. U-shaped valleys found in mountainous regions reflect the influence of
   A weathering,
   B sedimentation,
   C wind erosion,
   D glaciation.

Figure 1



9. Figure 1 shows the climate of a
   A tundra region,
   B tropical rain forest,
   C high mountain range,
   D desert area.

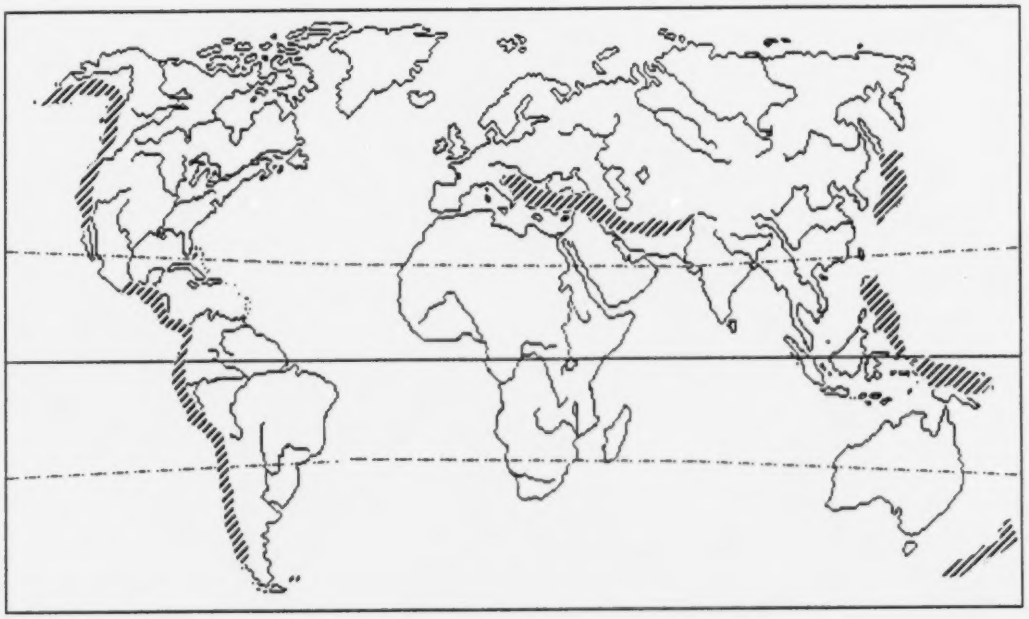
10. In a certain city the average monthly temperatures are

Month	J	F	M	A	M	J	J	A	S	O	N	D
Temperature C degrees	22	21	20	18	14	12	11	12	15	17	19	21
Temperature F degrees	72	70	68	64	57	54	52	54	59	63	66	70

In subtropical zones the average temperature of the warmest month is above 20 degrees C (68 degrees F), and of the coldest month between 2 degrees C (36 degrees F) and 13 degrees C (55 degrees F).
In tropical zones the average temperature of the warmest month is above 20 degrees C (68 degrees F) and of the coldest month above 13 degrees C (55 degrees F). The city is located

   A in the subtropical zone of the northern hemisphere,
   B in the tropical zone of the northern hemisphere,
   C in the subtropical zone of the southern hemisphere,
   D in the tropical zone of the southern hemisphere.

MAP 3



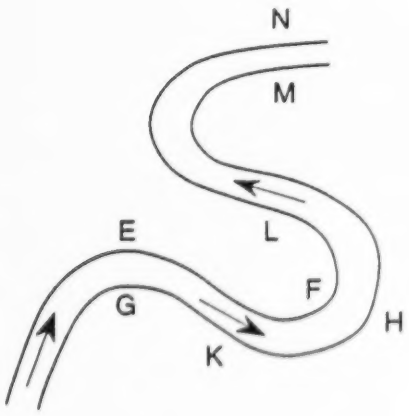
11. The striped areas on map 3 show regions of
    A high temperature,
    B low rainfall,
    C dense population,
    D frequent earthquakes.

12. The shaded areas of the Atlantic Ocean on map 3 are characterized by
    A trade winds,
    B monsoon winds,
    C westerly winds,
    D almost no wind.

13. Which of the following rocks are both sedimentary?
    A Granite, limestone,
    B Basalt, sandstone,
    C Shist, gneiss,
    D Limestone, sandstone.

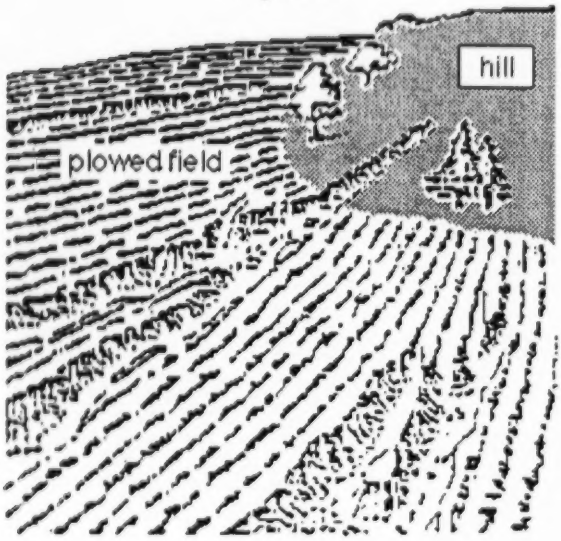
14. The most fertile soils are
    A tropical soils, because an abundance of tropical plants is growing there.
    B black soils, because they have a lot of humus.
    C sandy soils, because they are well ventilated.
    D loamy soils, because they keep moisture well.

Figure 2



15. The river in figure 2
    A is eroding at E and accumulating at F,
    B is eroding at G and accumulating at H,
    C is eroding at K and accumulating at L,
    D is eroding at M and accumulating at N.

Figure 3

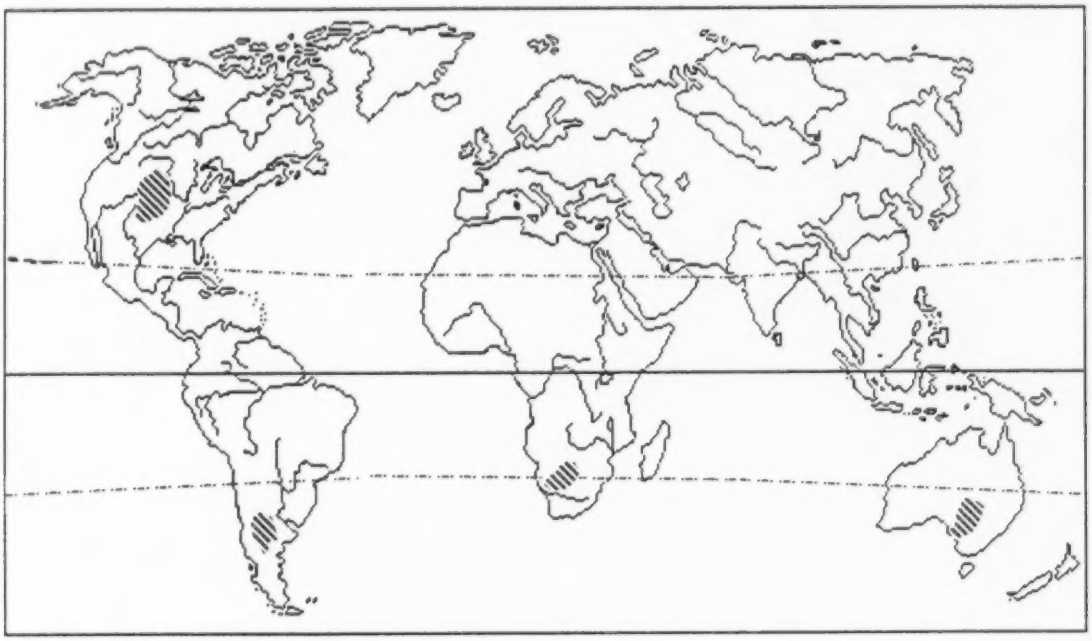


16. Figure 3 shows a landscape modified by
    A soil erosion by water,
    B soil erosion by wind,
    C contour plowing,
    D trees as wind breaks.

BEST COPY AVAILABLE

Part III: Human Geography

MAP 4



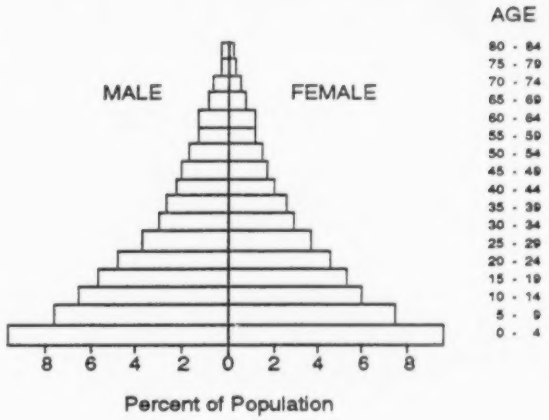
17. The striped areas on map 4 are
    - A wooded regions,
    - B mining regions,
    - C major regions of animal husbandry,
    - D major regions for vegetable production.

18. Which crop is grown mainly in tropical areas?
    - A Rye,
    - B Wheat,
    - C Rice,
    - D Barley.

19. The countries with the largest populations are
    - A Brazil and Mexico,
    - B China and India,
    - C USA and Soviet Union,
    - D Central African countries.

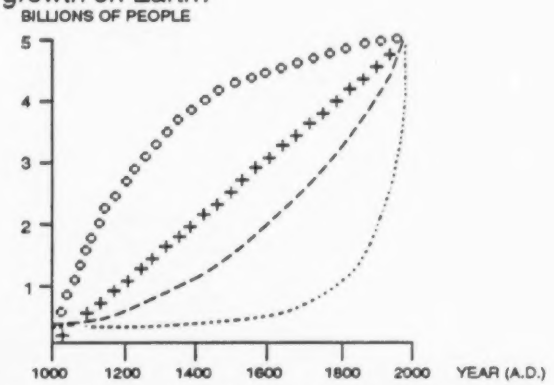
20. The age pyramid in figure 4 is typical for

A industrialized countries,
B developing countries,
C large countries,
D democratic countries.



21. Which line in figure 5 shows population growth on Earth?

A The dots (.....)
B The circles (00000)
C The crossses (+++++)
D The hatches (--------)



22. Which commodity is transported from the Persian Gulf to Japan, Europe and North America?

A Coal,
B Oil,
C Rubber,
D Wheat.

23. Which of the following statements about famous tourist attractions is correct?

A The Statue of Liberty is near Washington, D.C., USA.
B The Eiffel Tower is near London, Great Britain.
C The Taj Mahal is near Bombay, India.
D The Cheops Pyramid is near Cairo, Egypt.

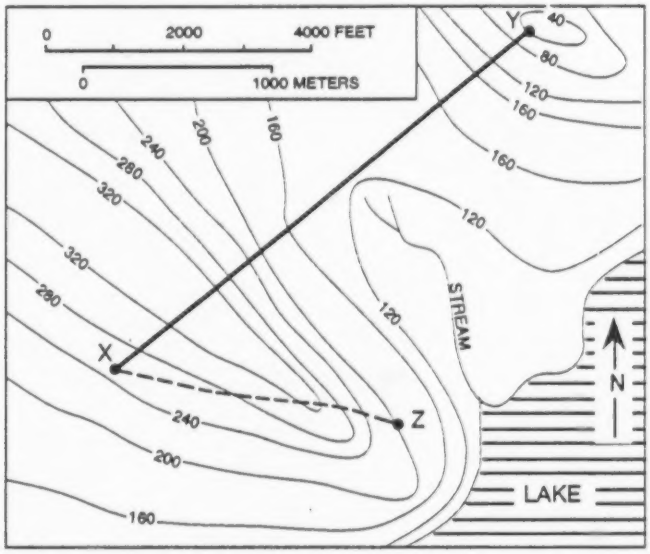
24. The dominant land use in city centers is for:

A offices, banks, stores, administration buildings,
B private homes, apartment houses, kindergartens, schools,
C factories, car dealers, gas stations, repair garages,
D parks, sports grounds, recreation facilities.

Part IV: Geographical Skills

25. The distance from point X to Y on map 5 is approximately
    - A 40 miles / 40 kilometers,
    - B 4000 feet / 1000 meters,
    - C 100 miles / 160 kilometers,
    - D 8200 feet / 2750 meters.

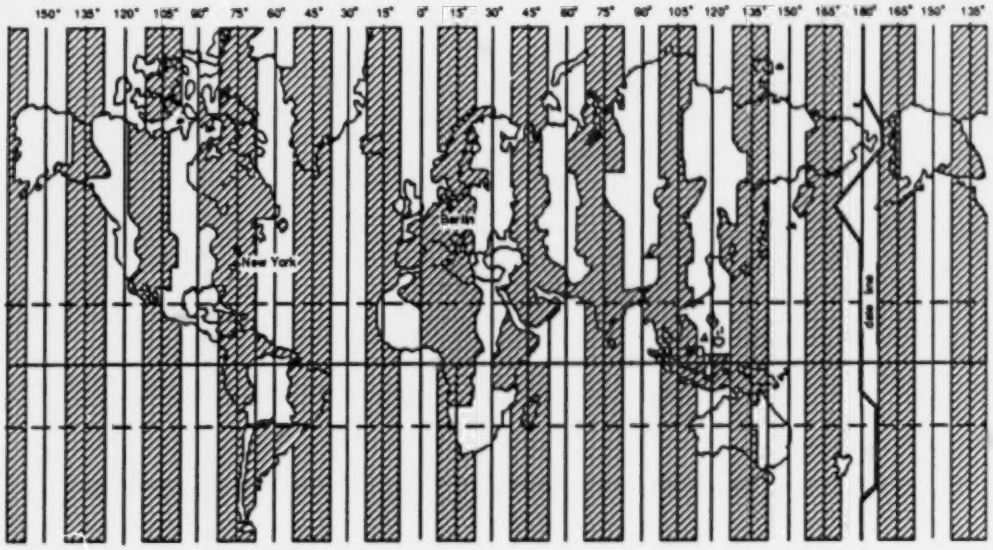
MAP 5



26. What general direction does the stream flow in map 5?
    - A Northwest,
    - B Southwest,
    - C Southeast,
    - D Northeast.

27. The hiking path from X to Z in map 5 is
    - A first declining gently, and then declining sharply,
    - B first rising gently, and then rising sharply,
    - C first rising gently, and then declining sharply,
    - D first rather horizontal, and then rising sharply.

MAP 6



28. Using map 6, determine what time is it in New York when it is noon in Berlin?

A 6 o'clock a.m.,
B 6 o'clock p.m.,
C 6 o'clock next morning,
D 6 o'clock previous evening.

29. A family in Australia and a family in Israel decide to add a solar water heater to their homes. To be most efficient, which direction should the solar collector face?

	In Australia	In Israel
A	west	east
B	north	south
C	east	west
D	south	north

30. What month on the year is it when the earth is in this position (figure 6) relative to the sun?

A March,
B July,
C October,
D December.

Figure 6

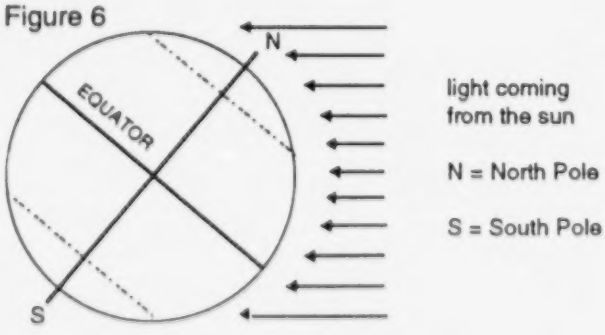
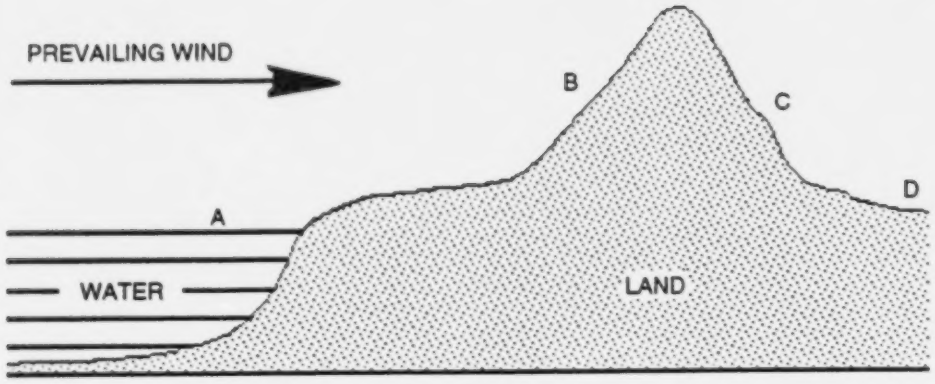


Figure 7



31. Based on figure 7, which is the most likely place for heavy rainfall?

A A, because the water is evaporating there.

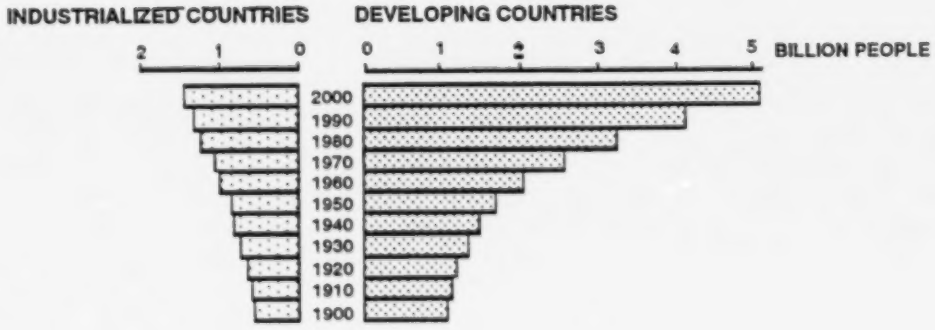
B B, because the clouds rise in front of the mountain.

C C, because the clouds sink behind the mountain.

D D, because the distance from the ocean is greater.

32. What does figure 8 tell about the world's population?

Figure 8



A The population will be about 5 billion by the year 2000.

B People will get much older by the year 2000 than now.

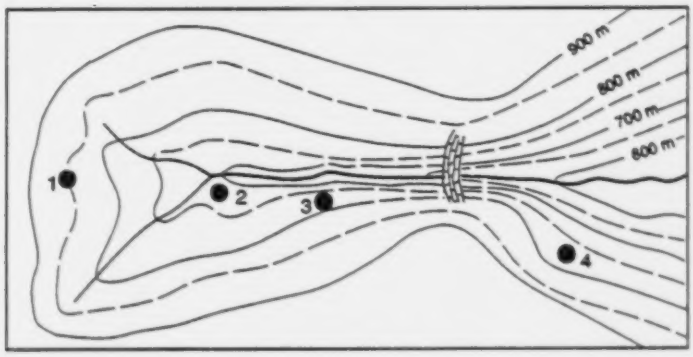
C The population in developing countries will increase by 400% from the year 1900 to the year 2000.

D Inhabited areas will increase their population four times from the year 1900 to the year 2000.

33. A water reservoir is being planned behind a dam 200 meters (600 feet) high. The lake in map 7 will rise 150 meters (450 feet) above the existing river level at the dam site. What will happen to the villages?

A All four villages will be flooded by the lake.
B Just village 2 will have to be evacuated.
C Villages 2 and 3 will be flooded by the lake.
D Villages 1, 2 and 3 will have to be evacuated.

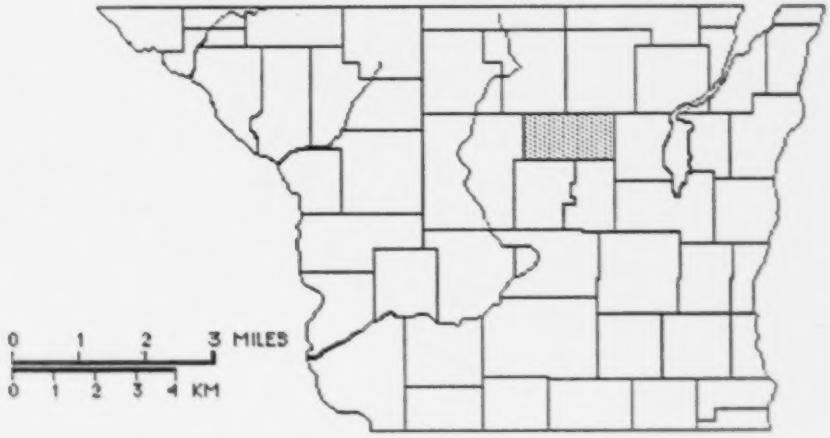
MAP 7



34. The shaded area in map 8 is the land of a farm. Approximately how large is this farm?

A 200 acres, (1 hectare = 2.5 acres)
B 200 hectares, (1 km^2 = 100 hectares)
C 2.5 $mile^2$, (1 $mile^2$ = 2.5 km^2)
D 3.5 km^2.

MAP 8

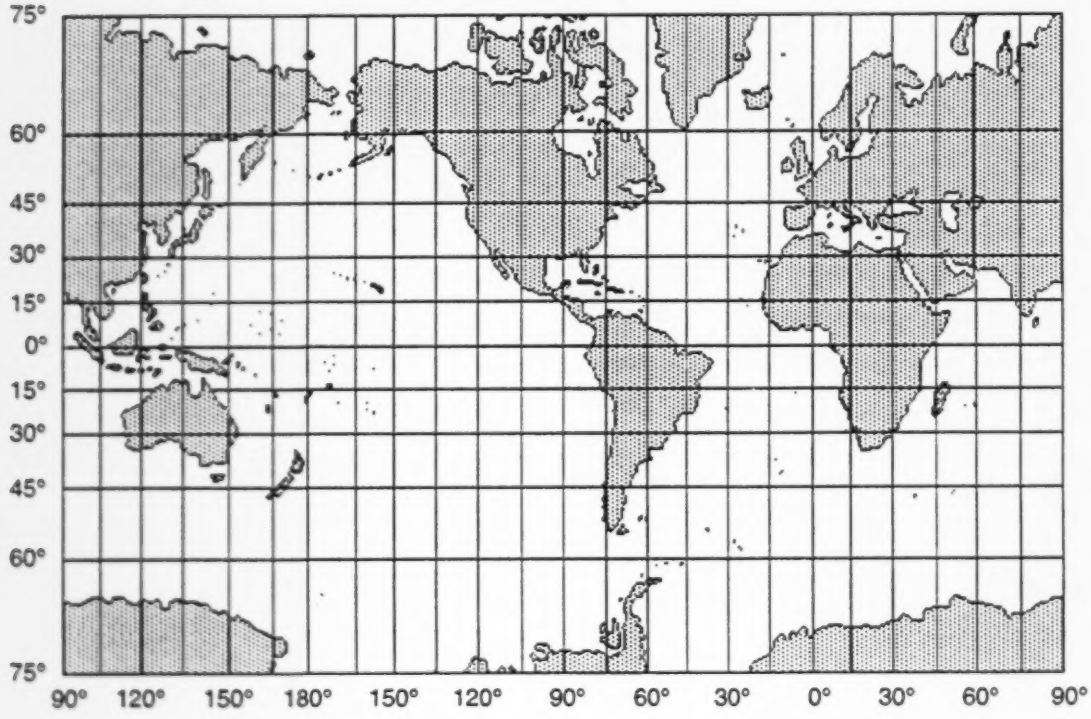


Part V: Regional Geography

35. On map 9, which of the following is the most distorted in size?

A Alaska,
B India,
C Mexico,
D Australia.

MAP 9



36. Brazil is

A mainly covered by tropical rain forest,
B a major exporter of cattle,
C a major producer of coffee,
D mainly influenced by Spanish speaking people.

37. In North America the majority of the population are

A Hindus,
B Christians,
C Jews,
D Moslems.

38. Which statement about the European Community is correct?
    A All Euopean countries belong to the European Community.
    B There are more people living in the European Community than in the USA.
    C The European Community has to import butter and milk for its population.
    D Vienna is the capital of the European Community.

39. In the Soviet Union
    A the main agricultural area stretches from the Ukraine to Kazakhstan,
    B the taiga consists mostly of deciduous trees with few conifers,
    C there is no railway line from western to eastern Siberia,
    D there are seaports on the Atlantic Ocean, Indian Ocean, and Pacific Ocean.

40. China has
    A more than a billion inhabitants,
    B almost no ethic minorities,
    C a humid climate in all regions,
    D good transportation systems all over the country.

41. Which statement about Japan is correct?
    A The country is rich in iron ore.
    B There is enough space for the expansion of cities and industries.
    C The Japanese are mainly Hindus.
    D Natural hazards are a major problem in Japan.

42. Which statement about Australia is correct?
    A Australia is densely populated.
    B Australia is a member of the Commonwealth of Nations.
    C Australia has a maritime climate.
    D Australia has become a major importer of iron and coal.

Part VI: Geography of the Home Country

Use the map below to answer questions 43-47.

43. What city is located at point 1?
    A Miami,
    B Houston,
    C New Orleans,
    D Chicago.

44. What city is located at point 2?
    A Washington, D.C.,
    B Philadelphia,
    C Boston,
    D Atlanta.

45. What is the name of the mountain range located between points 3 and 4?

A Sierra Nevada Mountains,
B Appalachian Mountains,
C Rocky Mountains,
D Andes Mountains.

46. What is the name of the landform found at point 5?

A Piedmont Ranges,
B Great Basin,
C Mississippi River,
D Great Plains.

47. What type of farming activity is most likely to be found in the area marked 6?

A dairy farming,
B wheat farming,
C cotton farming,
D vegetable farming.

48. Which of the following is one important reason why retail businesses move from the centers of cities to suburban areas?

A Building materials are cheaper in suburban areas.
B The shopping centers are more accessible to suburban residents.
C The shopping centers are closer to bus and rail lines.
D Suburban areas have higher land values than cities.

49. Which is the reason why many Americans oppose additional strip mining of coal in this country?

A Strip mining of coal is too expensive.
B Electricity is cheaper than coal.
C Strip mining of coal takes place too close to major cities.
D Strip mining of coal causes soil erosion.

50. Early settlers on the North American Great Plains built houses of sod because:

A the settlers were <u>not</u> accustomed to building with wood,
B sod offered greater protection than wood from the wind and rain,
C sod was readily available as a building materia,
D the settlers had built houses before coming here.